

### **REMARKS**

Favorable reconsideration and allowance of this application are requested.

As a procedural note, the present amendment is being filed concurrently with a formal Request for Continued Examination (RCE) under 37 CFR §1.114. Accordingly withdrawal of the "finality" of the May 17, 2006 Official Action is in order so as to allow entry and consideration of the amendments and remarks presented herewith.

By way of the amendment instructions above, the pending claims have been revised so as to emphasize that the branched polyamide layer "consists essentially of a branched polyamide". Support for such an amendment exists throughout the originally filed specification, for example, page 2, lines 5+ and the Examples on page 6+.

Several other revisions to correct obvious typographical errors have been incorporated into several of the pending claims.

Claims 1, 5 and 8-25 remain pending herein for which favorable reconsideration and allowance are requested.

#### **I. Response to 35 USC §102(b) Rejections**

Claims 5 and 8-11 attracted a rejection based on Schmitz et al (US 2002/0082352). In response, applicants note that the present invention as defined by independent claim 5 is directed to a multilayer film containing at least a polyamide layer and a polyolefin layer directly connected to one another or connected via an intermediate adhesive layer. Significantly, the polyamide layer consists essentially of a branched polyamide and the polyolefin layer consists essentially of polypropylene or of polyethylene, which polyethylene layer, other than the adhesive layer, if present, contains only polyethylene which is at least 95% linear low-density polyethylene.

Schmitz et al describe a multilayer composite comprising the following layers bound directly to one another:

- (I) a layer of a polyamide molding composition,
- (II) a layer of a bonding agent comprising at least 50% by weight of a **mixture** of from **30 to 70 parts** by volume of a polymer selected from the group consisting of a polyamide, a **branched** polyamine-polyamide copolymer and a combination of a polyamide and a branched polyamide-polyamide copolymer ([0032-[0035]), and from **70 to 30 parts** by volume of a **polymer other than a branched polyamide**, and
- (III) a layer of a polyolefin molding composition, for example polyethylene (for example LLDPE) or polypropylene.

Therefore, Schmitz et al clearly contemplates layer having layer II which contains at most 70 parts by volume of a branched polyamine-polyamide in addition to 30 parts by volume of a polymer other than a branched polyamide. Thus, the layer II is most certainly **not** a “branched polyamide layer” as defined by the applicants’ pending claim 5 since it includes unbranched polyamides which, as shown in the Examples and Comparative Experiments of the present application, are excluded from the claim scope as affecting the basic and novel characteristics of the present invention.

Hence, withdrawal of Schmitz et al as an anticipatory reference against claims 5 and 8-11 is in order.

## II. Response to 35 USC §103(a) Rejections

Claims 12-15 attracted a rejection under 35 USC §103(a) as allegedly being “obvious” from Schmitz et al in view of Johnston (USP 4,654,240), while claims 16-17 attracted a rejection under that same statutory provision based on Schmitz et al in view

of Bayer.<sup>1</sup> Finally, claims 1 and 18-25 have been rejection under 35 USC §103(a) as allegedly obvious over the combination of Bayer in view of Johnston. As will become evident from the discussion which follows, all claims now pending herein are patentably distinguishable over the applied references of record.

In this regard, applicants note that the present invention is concerned with the film blowing of multilayer films containing adjacent layers (and if necessary with an intermediate adhesive layer) of polyamide and specific polyolefin. The specific polyolefin is LLDPE or PP to give certain functionality to the film.

The problem however is that making blown film of such a combination of materials causes problems. The known solution to this problem is to add LDPE as an extra layer or mixed with the polyolefin so as to impart sufficient bubble strength. Such an extra layer makes the film blowing process more complex, while using a mixture influences the properties of the polyolefin in an unwanted manner. In this regard, the Examiner is invited to re-read the discussion appearing on page 1 of the present application.

With the multilayer film according to the presently pending claims – i.e., by employing branched polyamide instead of unbranched polyamide in the polyamide layer – surprisingly, in the case where LLDPE is the polyolefin, high tear strength and high bubble stability are achieved simultaneously, or in the case where PP is the polyolefin, high gloss and high bubble stability can be achieved simultaneously. Therefore, the present invention is patentably distinguishable over the art in that the present applicants have discovered that use of branched polyamide as the polyamide layer in stead of unbranched polyamide, achieves these significant and surprising effects when employed to form-blown multilayer film which also comprises PP or LLDPE.

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<sup>1</sup> The US patent equivalent to the Bayer reference, namely USP 6,566,486 to Joachimi et al, has been employed by the Examiner when formulating his rejection. Reference to Joachimi et al will therefore be made herein as an English-language equivalent to the applied Bayer publication.

Turning attention to the applied references, applicants note that Johnston does not add anything technically to Schmitz et al. Specifically, while Johnston uses PP or LLDPE, the technique for making the multilayer sterilizable container is by laminating the layers. Blow molding is not mentioned. Thus, Johnston deals with a quite different type of multilayer film production. No teaching or guidance is provided by Johnston regarding how to blow films of the proposed combination of laminated layers. And, there is no teaching in Johnston regarding either the use of branched polyamide in blow-molded films or the technical significance of the same.

As noted previously, Schmitz et al do not disclose the use of a polyamide layer which consists essentially of a branched polyamide. Schmitz et al also do not teach that high bubble stability could be obtained by using such a branched polyamide layer, or that such bubble stability can be achieved **simultaneously** with high tear strength or high gloss when using branched polyamide in the polyamide layer in combination with LLDPE or PP in the polyolefin layer.

The Joachimi reference teaches a novel type of polyamide – that is, a certain branched polyamide. It is noted in this regard that Joachimi certainly is not the first to describe branched polyamides as Joachimi refers to other documents (e.g., EP 0 345 648). However, the present applicants are not claiming to be the first inventors of branched polyamides per se.

With respect to processing properties of the branched polyamides disclosed in Joachimi, it is stated at column 5, lines 64+ that: “The polyamide produced according to the invention may be further processed by any known process known in the prior art for polyamides, for example...” Nothing is therefore said in Joachimi regarding any difference in processability as compared to prior art polyamides, let alone that a skilled person might find any incentive to apply this or any other branched polyamide in film blowing and at the same time omitting LDPE and expecting them to achieve sufficient bubble stability in a film blowing process. In other words, Joachimi explicitly report to

the art that the therein disclosed branched polyamides are equivalent to other polyamides, including *un*branched polyamides.

Against this technical backdrop, therefore, it is indeed surprising that the present applicants have discovered that significant technical differences in fact exist in the context of blow-molding multilayer films as claimed.

Therefore the skilled person confronted with the problems in film blowing (bubble stability without using more than a minor amount of LDPE) finds not incentive or guidance in the applied references of record to arrive at the presently claimed invention. The Examples and Comparative Experiments show the essence of the presence of LDPE when conventional polyamides are used and the unexpected effect of the present invention – namely, the use of a branched polyamide layer which consists essentially of a branched polyamide.

As such, the combinations of references relied upon by the Examiner to reject the prior pending claims under 35 USC §103(a) are inappropriate. Withdrawal of such rejections is therefore in order.

### **III. Conclusions**

Every effort has been made to advance prosecution of this application to allowance. Therefore, in view of the amendments and remarks above, applicant suggests that all claims are in condition for allowance and Official Notice of the same is solicited.

Should any small matters remain outstanding, the Examiner is encouraged to telephone the Applicants' undersigned attorney so that the same may be resolved without the need for an additional written action and reply.

**DE KROON et al**  
**Serial No. 10/511,344**  
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An early and favorable reply on the merits is awaited.

Respectfully submitted,

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